QC ABSTRACT

NAME OF WORK: Providing Rainwater Harvesting at Yelahanka Old Town Bangla School and Venkatala Govt School in Kempegowda Ward No- 01

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	Cement	Fineness by dry sieving	One Test		1	1
		Finess by Air permeablity method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
		Compressive Strength	One Test		1	1
2	Coarse aggregate(40 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
3	Coarse aggregate(20 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
4	Fine aggregate	SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
5	Block(400*200*200)	BLOCK DENSITY	One Test		1	1
		WATER ABSORPTION	One Test		1	1
		DIMENSION ANALYSIS	One Test		1	1
		COMPRESSIVE STRENGTH	One Test		1	1
6	Precast (100mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	CP-2020-07-21-54 **Date: 06-07-19**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP,
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Providing Rainwater Harvesting at Yelahanka Old Town Bangla School and Venkatala Govt School in Kempegowda Ward No- 01
Agency	:	Sri Thejesh N (S J Constructions) No:63, Bhadrappa Layout, Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-09/W.O/39/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-07-19
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	04-07-19
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

SLNo.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.86	–
2	Finess by Air permeablity method (m^2/kg,Min)	293.2	225m^2/kg, Min
3	Density (gm/cc)	3.14	–
4	Standard Consistency (%)	27.5%	Not specified
5	Initial Setting time	156 minutes	Not less than 30 minutes
6	Final Setting time	277 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

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Note:

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All information furnished by Customer/Representative
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Samples will be disposed after 90 days from the date of issue of test certificate

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2020-07-21-54** **Date: 06-07-19**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Providing Rainwater Harvesting at Yelahanka Old Town Bangla School and Venkatala Govt School in Kempegowda Ward No- 01
Agency	:	Sri Thejesh N (S J Constructions) No:63, Bhadrappa Layout, Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-09/W.O/39/2019-20
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	03-07-19
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	03-07-19

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SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : **15000** **grams**

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	218	218	1.5	98.5	90-100
3	20 mm	7289	7507	50.0	50.0	30-70
4	10 mm	5102	12609	84.1	15.9	10-35
5	4.75 mm	2185	14794	98.6	1.4	0-5
6	Pan	206	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2020-07-21-54** **Date: 05-07-19**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Providing Rainwater Harvesting at Yelahanka Old Town Bangla School and Venkatala Govt School in Kempegowda Ward No- 01
Agency	:	Sri Thejesh N (S J Constructions) No:63, Bhadrappa Layout, Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-09/W.O/39/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-07-19
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	03-07-19

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SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	152	152	3.0	97.0	90-100
3	10 mm	3102	3254	65.1	34.9	25-55
4	4.75 mm	1598	4852	97.0	3.0	0-10
5	Pan	148	5000	100	0	-

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TEST REPORT OF FINE AGGREGATE

Lab ID	:	CP-2020-07-21-54 **Date: 05-07-19**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Providing Rainwater Harvesting at Yelahanka Old Town Bangla School and Venkatala Govt School in Kempegowda Ward No- 01
Agency	:	Sri Thejesh N (S J Constructions) No:63, Bhadrappa Layout, Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-09/W.O/39/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-07-19
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	03-07-19
Total weight taken	:	1000 grams

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Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	27	27	2.7	97.3	90-100	90-100	90-100	95-100
3	2.36 mm	55	82	8.2	91.8	60-95	75-100	85-100	95-100
4	1.18 mm	239	321	32.1	67.9	30-70	55-90	75-100	90-100
5	600 micron	205	526	52.6	47.4	15-34	35-59	60-79	80-100
6	300 micron	203	729	72.9	27.1	5-20	8-30	12-40	15-50
7	150 micron	191	920	92.0	8.0	0-10	0-10	0-10	0-15
8	Pan	80	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

Date: 15-07-19

Lab ID	:	CP-2020-07-21-54
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Providing Rainwater Harvesting at Yelahanka Old Town Bangla School and Venkatala Govt School in Kempegowda Ward No- 01
Agency	:	Sri Thejesh N (S J Constructions) No:63, Bhadrappa Layout, Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-09/W.O/39/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	10-07-19
Sample Type/Size	:	Solid concrete blocks size (400X200X200)mm
Reference to BIS codes	:	IS : 2185 (Part 1) : 2005(RA 2010) Concrete Masonry Specification Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex -C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10)
Date of test	:	11-07-19

BLOCK DENSITY:

Sl. No.	Measurement of overall Dimensions of Individual Blocks			Overall Volume of the Block in Cubic Centimetres	Weight of Oven Dried Block in Kilograms to the nearest 10 Gram	Block Density in Kg/cum*10^6	Avg.Block Density in (Kg/cum)	As per IS 2185(Part 1) :2005 (RA 2010)
	Length	Breadth	Height					
	mm	mm	mm	(Cm^3)	Kg	Kg/m^3	Kg/m^3	
1	400	203	199	16159	31.325	1938.6	1958.9	Not less than 1800Kg/m^3
2	402	203	203	16566	33.075	1996.5		
3	403	203	199	16280	31.607	1941.5		

WATER ABSORPTION:

SL No.	Wet weight after water absorption	Dry weight (Oven dry)	Water Absorption	Avg.Water Absorption	As per IS 2185(Part 1):2005 (RA 2010)
	kg	kg	%	%	
1	33.91	32.25	4.89	4.25	Shall not be more than 10% by mass
2	33.57	32.14	4.28		
3	33.44	32.24	3.59		

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TC-5548

Lab ID : CP-2020-07-21-54 Date: 15-07-19

COMPRESSIVE STRENGTH:

Sl No.	Size of solid block		Area	Failure Load	Compressive strength	Average Compressive strength
	Length	Breadth				
	mm	mm	(mm^2)	(KN)	N/mm^2	(N/mm^2)
1	401.1232856	202.7158248	81314.0377	272.6	3.4	3.4
2	402.2072693	201.9340797	81219.35475	267.5	3.3	
3	402.2074249	199.0994795	80079.28896	290.4	3.6	
4	400.2635889	199.9378785	80027.85282	283.9	3.5	
5	399.9566042	199.3503311	79731.48147	270.9	3.4	
6	401.1917229	201.3821054	80792.83383	295.6	3.7	
7	403.481648	200.3759536	80848.01999	268.9	3.3	
8	399.58426	200.3965917	80075.32381	264.6	3.3	

As per IS Requirements (Table 2, Clause 5.1, 5.2 and 9.4)

Grade	Compressive strength	
	Minimum average	Minimum Individual units.
C (5.0)	5.00 N/mm^2	4.00 N/mm^2
C (4.0)	4.00 N/mm^2	3.20 N/mm^2

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Quality Manager

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TEST REPORT OF PRECAST COVER SLAB

Date: 10-07-19

Lab ID	:	CP-2020-07-21-54
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Providing Rainwater Harvesting at Yelahanka Old Town Bangla School and Venkatala Govt School in Kempegowda Ward No- 01
Agency	:	Sri Thejesh N (S J Constructions) No:63, Bhadrappa Layout, Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-09/W.O/39/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	06-07-19
Sample Type /Size	:	Precast Cover Slab-100mm
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete
Date of test	:	06/07/2019

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	75.51	100.48	1.116	4477	80.9	18.1	16.8	21.0
2	Cover Slab-2	75.49	100.52	1.122	4475	82.3	18.4	17.1	21.4
3	Cover Slab-3	75.50	100.51	1.118	4476	81.5	18.2	16.9	21.2

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